Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

1. (Currently Amended) A method for converting an input signal to one of a plurality of differing output sample rates, the method comprising:

receiving, at an input sample rate, a plurality of data points, associated with the input signal;

operating on said plurality of data points to associate said input signal with a predetermined set of parameters, with said set of parameters including a first transition band having an image corresponding thereto; and

~~dynamically~~ varying said input sample rate associated with said input signal to any one of the plurality of differing output sample rates by interpolation with an interpolator having associated therewith a second transition band, with the width associated with said second transition band being a function of a spectral separation of said first transition band and said image, and wherein ~~a second~~ an output signal is produced having a sequence of data samples approximating the input signal and said output sample rate is capable of being varied to any one of said plurality of differing output sample rates for any output data sample.

2. (Original) The method recited in claim 1 wherein varying said sample rate includes producing each data sample associated with said second signal by convolving a

predetermined finite number N of data points with an equal number of coefficients, with N being greater than two.

3. (Original) The method recited in claim 2 wherein coefficients vary as a function of the temporal spacing between the output point and the corresponding input points.

4. (Previously Presented) The method as recited in claim 1 wherein varying said input sample rate increases said input sample rate.

5. (Previously Presented) The method as recited in claim 1 wherein varying said input sample rate decreases said input sample rate.

6. (Original) The method as recited in claim 1 wherein operating on said plurality of data points includes up-sampling said plurality of data points by a factor of two.

7. (Original) The method as recited in claim 1 wherein operating on said plurality of data points includes filtering said plurality of data points with a half-band filter.

8. (Original) The method as recited in claim 1 wherein operating on said plurality of data points includes decimating said plurality of data points with a half-band decimator.

9. (Previously Presented) The method as recited in claim 6 further including decimating a plurality of data points output by said interpolator with a half-band decimator, with varying said input sample rate occurring after receiving said plurality of data points and before decimating said plurality of data points.

10. (Previously Presented) The method as recited in claim 1 wherein operating on said plurality of data points to associate said input signal includes filtering the same with a finite impulse response filter.

11. (Original) The method as recited in claim 1 wherein operating on said plurality of data points to associate said signal includes filtering the same with an infinite impulse response filter.

12. (Currently Amended) A method for converting a digital audio signal to a different sample rate, the method comprising:

receiving a plurality of data points, associated with an audio signal, at an initial sample rate;

halfband filtering said plurality of data points with a halfband filter to provide intermediate data points; and

interpolating the intermediate data points with an interpolator having independently programmable parameters, and wherein the different sample rate is provided by interpolating at least a subset of the intermediate data points based on the independently programmable parameters, and wherein said different sample rate is capable of being varied at any output data sample.

13. (Original) The method as recited in claim 12 wherein:

said halfband filtering is done in conjunction with upsampling said plurality of data points; and

said interpolating follows said upsampling and halfband filtering.

14. (Original) The method as recited in claim 12 wherein:

said halfband filtering is done, without upsampling, on said plurality of datapoints; and

said interpolating follows said halfband filtering.

15. (Previously Presented) The method as recited in claim 12 wherein:

additional halfband filtering follows said interpolating.

16. (Previously Presented) The method as recited in claim 12 wherein:

said halfband filtering is done in conjunction with upsampling said plurality of data points;

said interpolating follows said halfband filtering; and

halfband filtering and decimating follow said interpolating.

17. (Currently Amended) A computer program product for converting an input signal to one of a plurality of differing output sample rates, the method comprising:

code for receiving a plurality of data points, associated with the input signal, at an input sample rate;

code for operating on said plurality of data points to associate said input signal with a predetermined set of parameters, with said set of parameters including a first transition band having a first width;

code for dynamically varying said input sample rate associated with said signal to any one of the plurality of differing output sample rates by interpolating a subset of data points of said plurality of data points with an interpolator having associated therewith a second transition band, with the width associated with said second transition band being a

function of a spectral separation of said first transition band and said image, and wherein ~~a second~~ an output signal is produced having a sequence of data samples approximating the input signal and said output sample rate is capable of being varied to any one of said plurality of differing output sample rates for any output data sample; and

a computer-readable storage medium for storing code.

18. (Original) The computer program product as recited in claim 17 wherein code for operating on said plurality of data points includes code for up-sampling said plurality of data points by a factor of two.

19. (Original) The computer program product as recited in claim 17 wherein code for operating on said plurality of data points includes code for filtering said plurality of data points with a half-band filter.

20. (Original) The computer program product as recited in claim 17 wherein code for operating on said plurality of data points includes code for decimating said plurality of data points with a half-band decimator.

21. (Original) The computer program product as recited in claim 18 further including code for decimating said plurality of data points with a half-band decimator.

22. (Original) The computer program product as recited in claim 17 wherein code for operating on said plurality of data points to associate said signal includes code for filtering said data points with a filter selected from the set of filters consisting essentially of a finite impulse response filter and a infinite impulse response filter.

23. (Currently Amended) A computer program product for converting a digital audio signal to a different sample rate, the product comprising:

a computer-readable storage medium for storing code, said code including

code for receiving a plurality of data points, associated with an audio signal, at an initial sample rate;

code for halfband filtering said plurality of data points with a halfband filter to provide intermediate data points; and

code for interpolating the intermediate data points with an interpolator having independently programmable parameters, and wherein the different sample rate is provided by interpolating at least a subset of the intermediate data points based on the independently programmable parameters, and wherein said different sample rate is capable of being varied at any output data sample.

24. (Original) The computer program product as recited in claim 23 wherein:

said code for halfband filtering is executable in conjunction with code for upsampling said plurality of data points; and

said code for interpolating is executable following said upsampling and halfband filtering code.

25. (Original) The computer program product as recited in claim 23 wherein:

said code for halfband filtering is executable, without upsampling code, on said plurality of datapoints; and

said code for interpolating is executable following said halfband filtering code.

26. (Previously Presented) The computer program product as recited in claim 23 wherein:

code for additional halfband filtering is executable following said code for interpolating.

27. (Previously Presented) The computer program product as recited in claim 23 wherein:

said code for halfband filtering is executable in conjunction with code for upsampling said plurality of data points;

said code for interpolating is executable following said code for halfband filtering; and further comprising:

code for halfband filtering and decimating executable follows said code for interpolating.

28. (Original) The method of claims 1 or 12 wherein said interpolator is an FIR Nth order sum of products interpolator with linear interpolation of coefficients.

29. (Original) The computer program product of claims 17 or 23 wherein said interpolator is an FIR Nth order sum of products interpolator with linear interpolation of coefficients.

30. (Original) The method of claims 1 or 12 wherein said interpolator has a transition band beginning adjacent the top of a passband and ending adjacent the bottom of a passband image.

31. (Original) The computer program product of claims 17 or 23 wherein said interpolator has a transition band beginning adjacent the top of a passband and ending adjacent the bottom of a passband image.

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32. (Original) The method of claims 7, 8, 9 or 12 wherein said halfband filter is an IIR filter composed of first order allpass blocks.

33. (Original) The computer program product of claims 19 or 23 wherein said halfband filter is an IIR filter composed of first order allpass blocks.